

What is claimed is:

1. A high density recording medium with a super-resolution near-field structure including a sequential stack of a second dielectric layer, a recording layer, a protective layer, a mask layer, a first dielectric layer, and a polycarbonate layer, wherein the mask layer comprises high melting point metal oxide or silicon oxide to generate a near field by optically or thermally inducing physical changes in the crystalline structure and optical properties of the high melting point metal oxide or silicon oxide.
2. The high density recording medium of claim 1, wherein the high melting point metal oxide for the mask layer is WO_x which shows nearly reversible physical changes.
3. The high density recording medium of claim 1, wherein the high melting point metal oxide for the mask layer is TaO_x or AuO_x which shows irreversible physical changes.
4. The high density recording medium of claim 1, wherein the silicon oxide for the mask layer is SiO_x which shows irreversible physical changes.
5. The high density recording medium of any one of claims 1 through 4, further comprising a reflective layer containing silver or aluminum below the second dielectric layer.